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UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE

NATIONAL FOREST FACTS

SOUTHWESTERN REGION

ARIZONA AND NEW MEXICO

1947



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PUBLICATIONS

"National Forest Facts"

The purpose of this booklet is to provide the salient facts regarding the forest resources and their management in the Southwestern Region of the Forest Service, U. S. Department of Agriculture -- often called Region 3. It includes the 13 National Forests in Arizona and New Mexico.

REGIONAL FORESTER
Post Office Building
Albuquerque, N. M.

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ORIGIN OF NATIONAL FORESTS IN THE SOUTHWEST

<u>Dates of Proclamations and Executive Orders Establishing Them</u>	<u>ARIZONA</u>	<u>Original Names and Present Names</u>
August 17, 1898	Apache National Forest	Black Mesa Forest Reserve.
July 1, 1908		Part of the Black Mesa Forest Reserve became the Apache N.F.*
(The above covers only the portion of the Apache N.F. in Arizona)		

<u>Coconino National Forest</u>		
August 17, 1898		San Francisco Mountains Forest Reserve
July 2, 1908		All of the San Francisco Mountains Forest Reserve and parts of the Black Mesa, Tonto and Grand Canyon Forest Reserves were consolidated under name of Coconino N.F.

<u>Coronado National Forest</u>		
November 5, 1906		Baboquivari Forest Reserve.
November 6, 1906		Huachuca Forest Reserve.
November 7, 1906		Tumacacori Forest Reserve.
July 2, 1908		Baboquivari, Huachuca and Tumacacori Forest Reserves consolidated under name of Garces N.F.
April 11, 1902		Santa Rita Forest Reserve.
July 2, 1902		Santa Catalina Forest Reserve.
May 25, 1907		Dragoon N.F.
July 2, 1908		Santa Rita, Santa Catalina and Dragoon N.Fs. consolidated under name of Coronado N.F.
April 17, 1911		Garces and Coronado N.Fs. consoli- dated under name of Coronado N.F.
July 30, 1902		Chiricahua Forest Reserve.
November 5, 1906		Peloncillo Forest Reserve.
July 2, 1908		Chiricahua and Peloncillo Forest Reserves consolidated under name of Chiricahua N.F. (Portion of the Peloncillo in New Mexico.)

The term "National Forest" is abbreviated in this section.

Coronado National Forest (Continued)

July 6, 1917 Chiricahua and Coronado N.Fs. consolidated under name of Coronado N.F.
(The above covers the entire Forest in Arizona and New Mexico)

Crook National Forest

July 22, 1902 Mt. Graham Forest Reserve.
March 20, 1905 Pinal Mountains Forest Reserve.
October 3, 1905 Tonto Forest Reserve.
January 13, 1908 Pinal Mountains Forest Reserve became part of Tonto N.F.
July 1, 1908 Parts of the Mt. Graham and Tonto N.Fs including Pinal Mountains area, consolidated under name of Crook N.F.
January 23, 1925 518,431 acres transferred from Apache N.F. to Crook N.F.

Kaibab National Forest

February 20, 1893 Grand Canyon Forest Reserve,
July 2, 1908 All of the San Francisco Mountains and parts of the Black Mesa, Tonto and Grand Canyon Forest Reserves consolidated under name of Coconino N.F.
June 28, 1910 Part of Coconino N.F. together with certain other land not heretofore reserved became Tusayan N.F.
May 22, 1908 Dixie N.F. (Arizona)
July 2, 1908 Kaibab N.F.
March 18, 1924 Dixie consolidated with Kaibab N.F.
August 4, 1934 Tusayan and Kaibab N.Fs. consolidated.

Prescott National Forest

May 10, 1898 Prescott Forest Reserve.
December 30, 1907 Verde Forest Reserve.
July 2, 1908 Prescott and Verde N.Fs. consolidated under name of Prescott N.F.
October 22, 1934 249,201 acres transferred from Tusayan to Prescott N.F.

Sitgreaves National Forest

July 1, 1908

Parts of the Black Mesa and Tonto N.Fs.
consolidated under name of Sitgreaves
N.F.

Tonto National Forest

October 3, 1905

Tonto Forest Reserve.

October 22, 1934

Bloody Basin transferred from Prescott
to Tonto N.F. (151,285 acres).

NEW MEXICOApache National Forest

January 23, 1925

A portion of Datil N.F. was transferred
to Apache N.F. This portion was origi-
nally part of the Magdalena and Gila
River Forest Reserves.

Carson National Forest

November 7, 1906

Taos Forest Reserve

July 1, 1908

Carson N.F. created by consolidation of
Taos N.F. and part of Jemez N.F.

June 16, 1923

63,708 acres in Taos County transferred
from Santa Fe N.F. to Carson N.F.

Cibola National Forest

October 5, 1906

Mt. Taylor Forest Reserve.

November 5, 1906

San Mateo Forest Reserve.
Magdalena Forest Reserve.

November 6, 1906

Manzano Forest Reserve.

April 16, 1908

Mt. Taylor N.F. consolidated with Man-
zano N.F.

June 18, 1908

Creating the Datil N.F.

July 2, 1908

San Mateo N.F. added to Magdalena N.F.

February 23, 1909

Magdalena and Datil N.Fs. consolidated.

March 2, 1909

Zuni N.F.

September 10, 1914

Zuni N.F. consolidated with Manzano N.F.

December 3, 1931

Name of the Manzano changed to Cibola
N.F. and a portion of the Datil trans-
ferred to the Cibola.

Gila National Forest

March 2, 1899	Gila River Forest Reserve.
February 6, 1907	Big Burros Forest Reserve.
June 18, 1908	Consolidating the Big Burros with Gila N.F.
December 24, 1931	A portion of the Datil was transferred to the Gila N.F.

Lincoln National Forest

July 26, 1902	Lincoln Forest Reserve.
November 5, 1906	Gallinas Forest Reserve.
April 19, 1907	Guadalupe N.F.
April 24, 1907	Sacramento N.F.
July 2, 1908	Guadalupe and Sacramento N.Fs. consolidated as Alamo N.F. The Gallinas and Lincoln N.Fs. consolidated as Lincoln N.F.
June 6, 1917 (effective July 1)	Alamo N.F. transferred to the Lincoln N.F.

Santa Fe National Forest

January 11, 1892	Pecos River Forest Reserve.
October 12, 1905	Jemez Forest Reserve.
July 1, 1908	Pecos River N.F. changed to Pecos N.F.
July 1, 1915	Jemez and Pecos N.Fs. consolidated as the Santa Fe N.F.

October 3, 1905	Portales Forest Reserve.
March, 1907	Portales Forest Reserve restored to the public domain.

NOTE: The foregoing covers only changes of name and major transfers. There have been many additions, eliminations and changes in boundaries not listed.

FIRE RECORD FOR 1946

Calendar Year

Forest and State	A :Less Than 1/4 A.	B :1/4 A. & Less Than 10 A.	C :10 A. & Less Than 100 A.	D :100 A. & Less Than 300 A.	E :Over 300 A.	Total	Man-caused Fires
ARIZONA							
Apache	79	32	3	2	1	117	20
Coconino	196	61	8	4	3	272	60
Coronado	28	19	6		1	54	9
Crook	76	13	1	3	1	94	11
Kaibab	69	32	4			105	33
Prescott	37	12	3			52	14
Sitgreaves	115	37	5			157	27
Tonto	106	28	3	1		138	16
Total							
ARIZONA	706	234	33	10	6	989	186
NEW MEXICO							
Apache	47	25	2			74	5
Carson	24	14	1	1	1	41	16
Cibola	30	25	5	3		63	26
Coronado			1			1	
Gila	98	55	17	2	5	177	12
Lincoln	49	15	1		1	66	12
Santa Fe	57	36	6			99	21
Total							
NEW MEXICO	305	170	33	6	7	521	92
Total							
REGION 3	1011	404	66	16	13	1510	278

ACREAGE BURNED 1946

Forest and State	Gross Inside Boundaries	Area* Burned Objective
ARIZONA		
Apache	4079	160
Coconino	3753	600
Coronado	888	1040
Crook	3558	350
Kaibab	184	375
Prescott	148	400
Sitgreaves	270	300
Tonto	365	300
Total - ARIZONA	13245	3525
NEW MEXICO		
Apache	139	125
Carson	353	150
Cibola	277	300
Coronado	60	
Gila	27257	700
Lincoln	695	500
Santa Fe	164	200
Total - NEW MEXICO	28945	1975
Total - REGION 3	42190	5500

*This represents the area to which the Forest Service hopes to hold down fires. 1946 was an unusually bad fire year due to drought.

NATIONAL FOREST IMPROVEMENTS (GOVERNMENT OWNED) ON JUNE 30, 1946

(Includes Southwestern Forest & Range Exp. Station)

ARIZONA

	Fire Control and Administration	Number	Miles	Constrcn.Cost
1.	Fire Control Improvements	:	:	\$ 122,610.40
2.	Lookout Houses, Towers & Observatories. :	69 :	:	:
3.	Fire Control Water Facilities..... :	1 :	:	:
4.	Firebreaks	:	13.0:	:
	Administration Improvements	:	:	:
5.	Communication Systems	:	:	426,958.41
6.	Telephone Lines..... :	:	2129.6:	:
7.	Dwellings and Related Improvements..... :	:	:	711,278.33
8.	Dwellings	235 :	:	:
9.	Other Structures..... :	311 :	:	:
10.	Water & Sanitary Systems	122 :	:	:
11.	Warehouses, Shops and Offices	:	:	432,915.68
12.	Offices	51 :	:	:
13.	Shops	9 :	:	:
14.	Warehouses..... :	207 :	:	:
	Total	1,005 :	2142.6:	1,693,762.82
	Public Service	:	:	:
15.	Recreation Use Improvements..... :	:	:	1,034,045.71
16.	Campgrounds and Picnic Areas..... :	156 :	:	:
17.	Swimming Areas	3 :	:	:
18.	Winter Sports Areas	7 :	:	:
	Total	166 :	:	1,034,045.71
	Wildlife and Range Use Improvements	:	:	:
19.	Range Use Improvements	:	:	3,200,903.53
20.	Range Fences and Corrals	:	6960.7:	:
21.	Stock Driveways..... :	:	178.8:	:
22.	Range Water Developments..... :	2370 :	:	:
23.	Artificial Reseeding (Acres)	2310 :	:	:
24.	Wildlife Use Improvements	:	:	163,191.09
25.	Game Refuge Fences	:	7.8:	:
26.	Fish Rearing Ponds	15 :	:	:
27.	Stream and Lake Improvements..... :	39 :	:	:
	Total	4734 :	7147.3:	3,364,094.62
28.	Soil and Water Control Improvements	:	:	326,266.69
29.	ROADS	:	5290.9:	9,504,746.35
30.	TRAILS	:	3971.1:	540,974.59
	Total	:	9262.0:	10,371,987.63
	GRAND TOTAL	5905 :	18551.9:	16,463,890.78

RANGER DISTRICTS IN REGION 3 -- TOTAL 75

ARIZONA

Apache National Forest	2
Coconino " "	6
Coronado " "	5
Crook " "	5
Kaibab " "	4
Prescott " "	6
Sitgreaves " "	4
Tonto " "	8
	40

NEW MEXICO

Apache National Forest	3
Carson " "	6
Cibola " "	6
Coronado " "	1
Gila " "	7
Lincoln " "	5
Santa Fe " "	7
	35

NATIONAL FOREST IMPROVEMENTS (GOVERNMENT OWNED) ON JUNE 30, 1946

(Includes Southwestern Forest & Range Exp. Station)

NEW MEXICO

TOTAL R-3

	Number:	Miles	Construction Cost:	Number:	Miles	Construction Cost
1.			76,410.70			199,021.10
2.	50			119		
3.				1		
4.		8.0			21.0	
5.			657,509.29			1,084,467.70
6.		2421.1			4550.7	
7.			475,526.29			1,186,804.62
8.	1156			391		
9.	243			554		
10.	82			204		
11.			282,373.92			715,289.60
12.	39			90		
13.	6			15		
14.	129			336		
	705	2429.1	1,491,820.20	1710	4571.7	3,185,583.02
15.			569,968.69			1,604,014.40
16.	112			268		
17.				3		
18.	11			18		
	123		569,968.69	289		1,604,014.40
19.			2,357,429.57			5,558,333.10
20.		5575.0			12535.7	
21.		44.0			222.8	
22.	931			3301		
23.	306			2616		
24.			82,690.59			245,881.68
25.		2.5			10.3	
26.				15		
27.	58			97		
	1295	5621.5	2,440,120.16	6029	12768.8	5,804,214.78
28.			447,678.19			773,944.88
29.		2914.1	6,983,335.83		8205.0	16,488,082.18
30.		3384.5	295,090.30		7355.6	836,064.89
		6298.6	7,726,104.32		15560.6	18,098,091.95
	2123	14349.2	12,228,013.37	8028	32901.1	28,691,904.15

TIMBER RESOURCES IN ARIZONA AND NEW MEXICO

Forest area in Arizona and New Mexico may be divided into two types:

1. The sawtimber area, containing ponderosa pine, Douglas fir, white fir and other species suitable for logging operations. This area is generally found above 7,000 ft. elevation and up to 11,500 ft. (timberline). It receives precipitation averaging 19 inches or better, annually. (In general, precipitation increases with elevation).
2. The woodland area, containing pinon, juniper, oak and the like. Generally between the 5,000 ft. and 7,000 ft. elevations, where precipitation is from 12 to 18 inches annually.

FOREST AREA IN REGION 3

(In acres. Includes all ownerships)

	Sawtimber Area	Woodland Area	Total Forest Area
ARIZONA	4,638,000	14,900,000	19,538,000
NEW MEXICO	6,101,000	13,900,000	20,001,000
REGION 3	10,739,000	28,800,000	39,539,000

A considerable part of the sawtimber area in Arizona and New Mexico is inaccessible or too scattered for logging purposes or withdrawn for purposes other than timber production. This part is classed as "non-commercial." The part which can be used for timber production is called the "commercial" sawtimber area, and according to present ideas this area is all that will be available for future production of timber.

COMMERCIAL SAWTIMBER AREA AND VOLUME

	Area (Acres)	Volume (M ft. B.M.)
ARIZONA		
National Forests	2,058,000	11,550,000
Indian Reservations	686,000	4,467,000
Other Federal	-----	-----
State	30,000	105,000
Total, Federal and State	2,774,000	16,122,000
Private	41,000	148,000
Grand Total	2,815,000	16,270,000
NEW MEXICO		
National Forests	2,020,000	5,610,000
Indian Reservations	345,000	653,000
Other Federal	40,000	142,000
State	149,000	407,000
Total, Federal and State	2,554,000	6,812,000
Private	911,000	1,659,000
Grand Total	3,465,000	8,471,000

The commercial sawtimber area may be divided as follows (by acres):

	<u>Virgin</u>	<u>Cut-over</u>	<u>Total</u>
ARIZONA	1,969,000	846,000	2,815,000
NEW MEXICO	1,834,000	1,631,000	3,465,000

The cut-over land varies in its condition and consequently in its ability to produce future timber crops. For the Region, it varies about as follows:

	<u>Acres</u>
1. Denuded lands with only a light stand of seedlings & saplings - -	424,000
2. Land fairly stocked with seedlings and saplings - - - - -	495,000
3. Land with pole timber (trees between 4 and 12 inches D.B.H.) - -	598,000
4. Selectively-cut land such as that on publicly owned areas - - -	960,000
	<u>2,477,000</u>

It is only from such lands as the last (No. 4) that an early second cut of timber will be obtainable.

(NOTE: Tables used above and on the preceding page are based on preliminary data for the Reappraisal Report of the U.S. Forest Service).

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NUMBER OF TREE SPECIES IN REGION 3

According to U. S. Department of Agriculture, Misc. Circular No. 92, "Check List of the Forest Trees of the United States" there are 131 species of trees in Region 3.

Of these 131 species, four make up 98% of volume of the sawtimber stand. Ponderosa pine (Pinus ponderosa) makes up 82% of the volume; Douglas fir (Pseudotsuga taxifolia) 10%; White fir (Abies concolor) 3%, Engelmann spruce (Picea engelmannii) 3%, Mexican white pine (Pinus strobiformis), Corkbark fir (Abies Arizona), limber pine (Pinus flexilis), etc., making up the remainder.

FUEL VALUE OF WOOD

(Local species and typical others for comparison)

Approximate equivalents of one ton (2,000 pounds) of coal in terms of one cord of 128 cubic feet containing 80 cubic feet of solid wood:

<u>One cord of</u>	<u>One and one-half cords of</u>	<u>Two cords of</u>
Oaks	Soft maple	Cedars
Locusts	Sycamore	Cypress (<u>Cupressus</u>)
Hard maple	Mesquite tops	Cottonwoods
Ashes	Douglas fir	Aspen
Hickory	Southern pines	Pines (other than
*Mesquite Roots	Hemlocks	southern)
	Larch	

* Of all American species of wood, mesquite is one of the few in which the root-wood is of higher specific gravity than above-ground wood. It pays to use the root-wood for fuel and the grubbing will improve many of our ranges.

SAWTIMBER CUT BY YEARS (ENTIRE STATE)

Data from Census (Calendar Year)

(All Ownerships)

(The figures below are in M ft. B.M., which equals 1,000 board feet)

: Number Mills		: Total		: Total	
: Reporting		: Cut		: Cut	
Year:	Arizona	New Mexico	Arizona	New Mexico	Arizona and New Mexico
1930:	26	76	95,000	143,000	238,000
1932:	22	52	58,000	72,000	130,000
1934:	34	74	73,000	101,000	174,000
1936:	36	87	123,411	140,840	264,251
1937:	39	105	123,041	164,446	287,487
1938:	37	94	118,200	125,176	243,376
1939:	42	98	119,206	106,227	225,433
1940:	41	100	128,776	112,786	241,562
1941:	42	119	130,567	114,612	245,179
1942:	38	138	143,286	122,958	266,244
1943:	44	118	151,547	109,099	260,646
1944:	47	136	172,198	105,348	277,546
1945:	53	135	157,984	99,100	257,084

The sawtimber forests of Arizona and New Mexico have supplied sawtimber for the production of approximately nine and one-half billion board feet of sawn products during the period 1879 to 1946 inclusive.

TIMBER CUT FROM NATIONAL FORESTS, BY YEARS

All classes of products converted to M ft. All classes of Forest Sales.

Calendar Year							
: Sales (All Classes)				: Free Use**			
: :		: Total		: Average		: :	
: :		: Arizona &		: Price		: :	
Year:	Arizona	New Mexico	New Mexico	Per M Ft.	Arizona	New Mexico	Total
1930:	85,745	37,101	122,846	\$2.33	8,670	15,818	24,488
1932:	57,577	11,541	69,118	2.31	12,876*	27,962	40,838
1934:	35,452	13,600	49,052	2.35	14,568	23,485	38,053
1936:	92,154	35,848	128,002	2.34	13,593	22,253	35,846
1937:	92,474	51,775	144,249	2.24	7,902	25,332	33,234
1938:	69,853	37,818	107,671	2.19	8,117	25,452	33,569
1939:	65,416	32,780	98,196	2.18	8,381	24,111	32,492
1940:	74,634	41,084	115,718	2.30	8,976	28,674	37,650
1941:	79,301	29,949	109,250	2.45	6,767	29,850	36,617
1942:	75,033	45,190	120,223	2.48	6,575	20,588	27,163
1943:	77,634	54,053	131,687	2.82	4,756	13,660	18,416
1944:	113,551	41,678	155,229	3.40	4,970	13,565	18,535
1945:	109,209	42,768	151,977	3.33	5,304	16,527	21,831
1946:	170,358	49,477	219,835	3.29	6,845	13,606	25,451

*Previous figures on "Free Use" are calendar year, subsequent are fiscal Year.

Handled under cooperative agreement (State timber) 10,425 M (C.Y. 1946)

Handled under cooperative agreement (Private timber) 3,482 M (C.Y. 1946)

**Allowed settlers and residents on and adjacent to the National Forests for fuel, fencing, building, etc.

NATIONAL FOREST TIMBER CUT, BY FORESTS

Fiscal Year 1946

National Forest	Sales (1000 Bd. Ft.)	Value	Amount Free Use
Apache	27,643	\$ 82,065	425
Coconino	52,687	149,990	662
Coronado	749	1,457	1,077
Crook	302	590	2,329
Kaibab	6,492	18,138	344
Prescott	1,161	4,660	361
Sitgreaves	37,136	131,863	775
Tonto	6,851	25,076	872
ARIZONA	133,021	413,844	6,845
Apache	6,230	28,348	640
Carson	3,576	11,152	10,006
Cibola	9,255	25,039	1,515
Coronado	-	-	41
Gila	3,536	10,497	662
Lincoln	4,741	18,281	975
Santa Fe	13,835	49,455	4,767
NEW MEXICO	41,173	142,772	18,606
REGION 3	174,194	556,616	25,451

STATUS OF CUTTING IN NEW MEXICO - 1945

Total cut (estimated) 90,100 M feet log scale

National Forest -----	42,768 M ft.	47.5
Indian Reservations -----	16,186 " "	18.0
State (handled by Forest Service) -----	10,425 " "	11.6
State (handled by State) -----	11,193 " "	12.4
Private (handled by Forest Service) -----	3,014 " "	3.3
Private (handled by Co. under cooperative agreement) -----	0	0.0
Private (some restrictions) railroad lands, timber rights, etc. -----	3,000 " "	3.3
Private (no restrictions except state law) -----	3,514 " "	3.9
TOTAL	90,100 " "	100.0

Total cut from private lands 9,528 M feet

Regulated cut ----- 6,014 M - 63.1%

Unregulated cut ----- 3,514 M - 36.9

STATUS OF CUTTING IN ARIZONA - 1945

Total cut (estimated) 143,600 M feet log scale

National Forests -----	109,209 M Ft.	76.1
Indian Reservations -----	32,062 " "	22.3
State (handled by Forest Service) -----	0 " "	0.0
Timber Rights (under T.R. agreement) -----	0 " "	0.0
Private (handled by Forest Service) -----	468 " "	.3
Private (no restrictions) -----	1,861 " "	1.3
TOTAL	143,600 " "	100.0

STATUS OF CUTTING IN NEW MEXICO, 1944 and 1945

	Percent of Total	
	1944	1945
National Forests -----	37.6	47.5
Indian Reservations -----	20.3	18.0
State of New Mexico (F.S. Coop.) -----	6.5	11.6
State (other) -----	8.1	12.4
Private (F.S. Coop.) -----	10.7	3.3
Private (handled by company under coop. agreement) -----	-	-
Private (timber rights and railroad lands minor restrictions) -----	3.4	3.3
Private (no restrictions except State law) -----	13.4	3.9
TOTAL	100.0	100.0

Total Cut 96,000 M ft.

90,100 M ft.

Increment of Ponderosa Pine Stands During Different Periods After Cutting
(Data collected and compiled by Southwestern Forest and Range Exp. Station)

Board Ft. :	Years After Cutting					
Remaining :						
After :	5	10	15	20	25	30
Cutting :	Board Ft.:	Board Ft.:	Board Ft.:	Board Ft.:	Board Ft. :	Board Ft.
200 :	50	145	200	320	420	520
600 :	100	250	390	520	670	800
1,000 :	165	325	495	680	870	1,030
2,000 :	260	515	805	1,090	1,340	1,610
3,000 :	350	700	1,125	1,550	1,825	2,230
4,000 :	460	900	1,410	1,910	2,430	2,900
5,000 :	540	1,050	1,640	2,240	2,800	3,350
6,000 :	620	1,220	1,850	2,550	3,250	3,875
7,000 :	670	1,350	2,070	2,800	3,550	4,250
8,000 :	735	1,480	2,250	3,050	3,950	4,650
9,000 :	775	1,550	2,400	3,200	4,050	4,700
10,000 :	800	1,650	2,500	3,250	4,000	4,800

NOTE: Increment volumes in lower portion of table are subject to considerable error due to too few plots. Volumes beyond 20 years were obtained by extending curve.

SOME WOOD UTILIZATION FACTS

All other things being equal, that is, grade for grade:

1. Sapwood of any species is as strong when used as a beam or post and as stiff as the heartwood of that species.
2. Red (heartwood) hickory tool handles are as strong as white (sapwood) handles.
3. Timber cut from dead trees (free from decay) is as strong as that cut from live trees.
4. The harder the wood the higher its nail-holding power but the more easily it splits. Conversely, the softer the wood the lower its nail-holding power but the less easily it splits. Hence, use slimmer and more nails in hardwoods; larger and less nails in softwoods.
5. Good air-seasoned wood and good kiln-dried wood of the same species at the same moisture content are of equal strength.
6. From the principal property standpoints the oaks are classed commercially in two groups - white and red. Thus the three important southwestern species of oak are of approximately equal value and behavior in use: Arizona white oak (Q. arizonica); Emory oak (Q. emoryi), and Rocky mountain white oak (Q. utahensis).
7. Sapwood of no species is durable.
8. In untreated condition, with the same proportion of heartwood present, there is no difference in durability of round and split posts but splitting often changes the relative proportion by volume of sapwood and heartwood.
9. Generally the softer a wood the better it takes and holds paint.
10. In repainting buildings use the paint of the same manufacturer as was originally used since coats of paints of different formula usually are not compatible.
11. Uneven coatings on wood cause warping.
12. Of all the lumber called or sold under a commercial or trade name including the words, "white pine," that cut from only the following species is true white pine:

Northern white pine (P. strobus)
Western (Idaho) white pine (P. monticola)
Sugar pine (P. lambertiana)
Limber pine (P. flexilis)
Whitebark pine (P. albicaulis)
Mexican white pine (P. strobiformis)

All others belong to the hard or southern yellow pine group (i.e., long-leaf, shortleaf, loblolly, slash, etc.); or to the intermediate, red, or nut group (i.e., Norway, lodgepole, jack, ponderosa, etc.).

COMPARATIVE DECAY RESISTANCE OF HEARTWOOD OF
LOCAL AND FREQUENTLY-USED OUTSIDE SPECIES

(Applies only to heartwood, untreated. Sapwood of no species is durable under conditions favoring decay; i.e., in contact with soil, poorly-drained or aerated parts of buildings, bridges, etc.)

Durable Group

- Cedars
- Junipers
- Black Locust
- Osage Orange
- Redwood
- Southern cypress

Nearly as Durable Group

- White oaks
- Honey locust
- Dense Douglas fir
- Dense southern pine
- Dense larch

High Intermediate Group

- Cypress (Cupressus)
- Douglas fir (unselected)
- Southern pine (unselected)
- Larch (unselected)

Low Intermediate Group

- Red Oaks
- Pines (other than southern)
- Maple (hard and red)
- Ashes
- Hemlocks
- Spruces

Nondurable Group

- True firs (concolor, alpine, balsam, etc.)
- Aspen
- Cottonwood
- Willows

NOTE: When used under decay-inducing conditions the woods in the last three groups should be treated with an approved preservative and in so treating sapwood all around is preferable.

Stream flow characteristics of small mountain watersheds in central Arizona as related to precipitation.

	Elevation (ft.)	Precipitation (inches)	Stream flow (inches)	Stream flow as percent of precipitation
Winter period (October through May)				
Workman Creek (1938-45)	6500-7700	25.6	3.8	14.7
Parker Creek (1934-45)	5400-7400	20.9	6.6	31.6
Pocket Creek (1936-45)	5300-7000	17.8	4.4	24.6
Summer period (June through September)				
Workman Creek (1939-46)	6500-7700	10.4	0.40	3.8
Parker Creek (1934-46)	5400-7400	9.9	0.32	3.2
Pocket Creek (1937-46)	5300-7000	8.5	0.18	2.1

The above table indicates that summer rains ordinarily contribute little to stream flow; the bulk of the water comes from the winter precipitation. The reasons are (a) Summer thunderstorms are usually local and of short duration; any run-off generally disappears in dry stream beds. (b) Summer rains generally do not get a chance to accumulate in the ground, and hence do not produce sub-surface flow. In contrast, winter period storms are generally widespread, of medium to high intensity, and long duration. Hence, they produce sub-surface run-off and relatively high water yield. There are exceptions to the above; occasionally a late summer storm causes heavy run-off of short duration.

SOIL LOSS, SURFACE RUN-OFF, AND INFILTRATION As Affected by Different Soil Types and Vegetation

(From records of Southwestern Forest and Range Experiment Station)

In 1938 a battery of seven pairs of 1,000 square inch lysimeters -- or soil boxes -- was installed at the Sierra Ancha Experimental Forest. Each contained undisturbed soil blocks representing seven different important soil types from the Tonto National Forest. One of each pair of soil boxes is grass covered and one is bare of vegetation. Results for 6 years are summarized in the table on the following page:

Soil Types	Soil Loss (cu. in.)		Surface run-off: in percent of :		Percolation in percent of	
	Vege- tated		Precipitation :		precipitation	
	Bare	tated	Bare	Vegetated	Bare	Vegetated
Gray schist	302	91	52.3%	38.9%	6.2%	12.2%
Volcanic malpais	721	208	14.9%	15.4%	27.2%	11.5%
Conglomerate	512	87	19.1%	15.0%	24.0%	20.4%
Red Shale	661	17	25.9%	2.0%	19.5%	26.2%
Sandstone	586	29	30.2%	5.8%	18.5%	23.2%
Diabase	341	16	27.7%	6.7%	19.0%	22.4%
Quartzite	322	7	31.5%	3.2%	8.9%	24.6%
Total	3,445	455	28.8%	12.4%	17.6%	20.1%

Facts indicated by the data: On the average for all soil types the amount of eroded material from the bare plots was seven and one-half times as great as that from the vegetated plots. Surface run-off, like erosion, was greatest on all the bare soil types with the exception of the volcanic malpais. On the average, infiltration was greater on the vegetated plots. Both surface run-off and erosion per unit of precipitation were greater during the summer period, while most of the infiltration occurred during the winter.

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

(The basis for these estimates is a correlation of stream-gaging and precipitation records, adjusted to elevations, vegetative association and other factors affecting run-off. The precipitation data were obtained from Weather records and state maps and the available stream-gaging records used for certain basic flow determinations were obtained from U.S.G.S. water supply papers.)

Santa Fe National Forest			
Drainage Name	Gross Area of Basin In Sq. Miles (Santa Fe Forest)		Annual Water Yield-Acre Ft.
	Per Year		Per Sq. Mi.
Mora River*	132	42,000	317
Gallinas River	57	20,000	346
Tecolote Creek	46	8,000	179
El Rito Creek	30	3,500	118
Canyon Blanco	74	4,500	60
Cow Creek	121	26,500	220
Pecos River	306	108,000	353
Rio Galisteo	74	6,200	85
Santa Fe Creek	35	8,500	242
Pojoaque Creek	60	13,100	218
Santa Cruz & Truchas	117	36,000	308
Direct Tributaries from			
West Side **	209	17,600	84
Jemez River	223	40,400	181
Rio Puerco	102	12,100	119
Chama River	336	43,500	129
Gallina River	216	21,600	100
Largo Creek (San Juan)	18	800	44
Total Santa Fe Forest	2,158	412,300	190

* Includes Rociada Tract and unacquired Mora Grant lands to Forest Boundary.

** Excluding Ramon Vigil Grant.

Baca Location is not included in estimates.

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

Gila National Forest

Drainage Name	:Gross Area of Basin In :Annual Water Yield - Acre Ft.	
	:Sq. Miles (Gila Forest):	Per Year :Per Sq. Mi.
Luera Mtns. and Y Canyon :	155 :	4,100 : 26
Negrito Creek :	185 :	8,100 : 44
San Francisco (Direct) :	486 :	35,000 : 68
Sub (San Francisco) :	671 :	43,100 : 62
Sacaton Creek :	18 :	2,500 : 139
Mogollon Creek :	110 :	17,100 : 155
West Fork, Gila :	164 :	30,850 : 188
Middle Fork, Gila :	364 :	35,500 : 98
Main Stem, Gila :	728 :	35,700 : 49
Bear Creek :	126 :	7,200 : 57
Sapillo Creek :	176 :	9,750 : 55
Black Canyon :	115 :	10,100 : 88
Diamond Creek :	119 :	9,700 : 81
Mangas Wash (Burros) :	82 :	2,100 : 26
Gila direct (Tillie-Hall Peak) :	36 :	800 : 22
Gila direct (Burros) :	178 :	4,100 : 23
Sub. T. (Gila River) :	2,216 :	165,400 : 76
Mimbres :	345 :	19,600 : 57
Rio Grande (Direct) :	454 :	26,100 : 57
Sub. T. (Rio Grande) :	799 :	45,700 : 57
Total Gila Forest :	3,841 :	258,300 : 67

Carson National Forest

Latir Creek :	17 :	5,500 : 325
Red River :	171 :	62,000 : 364
San Cristobal :	29 :	3,200 : 112
Rio Hondo :	38 :	19,300 : 507
Taos Creek* :	123 :	32,200 : 264
Little Rio Grande* :	145 :	38,300 : 264
Embudo (Pueblo Cr.) :	230 :	65,000 : 284
Coyote Creek (Can)# :	14 :	4,500 : 320
Los Pinos-San Antone :	204 :	50,000 : 248
Brazos** :	20 :	8,000 : 392
Aguage Arroyo #/## :	74 :	4,600 : 62
Las Tusas :	186 :	22,000 : 120
Vallecitos* :	220 :	37,000 : 170
El Rito Creek :	65 :	13,500 : 207
Canjilon Creek* :	151 :	14,500 : 101
Rio Nutrias** :	17 :	3,500 : 212
Rio Cebolla** :	54 :	4,000 : 76
Chama (Direct) :	38 :	600 : 16
San Juan (Jicar.) :	249 :	15,600 : 63
Total Carson Forest*** :	2,045 :	403,300 : 197

* Includes non-National Forest area of Watershed :

** National Forest drainage only

*** Totals include non-forest areas as listed above :

Does not include Santa Fe area to be administered by Carson

Does not include Taos Resettlement Area

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

Apache National Forest			
:Gross Area of Basin:			
Drainage Name	In Sq. Miles	:Annual Water Yield -Acre Ft.	
	(Apache Forest)	Per Year	Per Sq. Mi.
Mineral Creek	52	12,200	232
Canero Creek	37	8,300	224
Little Colorado (Direct)	81	33,700	414
So. Fork Little Colorado	55	14,300	260
Nutrioso Creek	148	17,300	117
Coyote Creek*	80	5,500	69
Agua Fria Creek*	127	6,400	51
Largo Creek*	127	13,700	108
(Sub-Total Little Colorado)	707	111,400	158
Mangas Creek*	61	8,100	133
Alamacito-Patterson*	74	8,400	114
T. H. Canyon-Cottonwood*	45	6,100	135
(Sub-Total Interior Plains)	180	22,600	126
Tularosa Creek	324	23,800	74
Apache Creek	137	10,900	79
Saliz-Brushy Creek	75	4,200	56
Pueblo Creek	84	5,800	69
Upper "Frisco" Direct	162	24,200	149
Centerfire - Karruth Creek	149	10,800	73
Lower "Frisco" Direct	214	11,000	51
(Sub-Total San Francisco River)**	1,145	90,700	80
Campbell & Dry Blue	112	24,700	220
Blue River (Direct)	184	23,800	129
(Sub-Total Blue River)	296	48,500	164
North Fork Black River	49	21,800	445
East Fork Black River	63	25,500	405
Black River (Direct)	244	101,600	415
(Sub-Total Black River)	356	148,900	418
Total Apache Forest	2,684	422,100	157

* Principally flood waters and seasonal flow

** Exclusive of Negrito Creek above Apache-Gila boundary

NOTE: Water yield estimates for other Forests of Region 3 are not yet available.

Total Area Available for Livestock
(Includes National Forest Range)

	Arizona	New Mexico	TOTAL
Total Land Area	72,838,400	78,401,920	151,240,320
Barren and Unaccessible	8,403,042	1,285,569	9,688,611
Other Non-grazable	1,853,855	3,059,800	4,913,655
Total Non-grazable	10,256,897	4,345,369	14,602,266
Total Gross Grazable	62,581,503	74,056,551	136,638,054
Closed to Grazing	778,176	278,834	1,057,010
Total Net Area Available for Livestock - Acres	61,803,327	73,777,717	135,581,044
Percent	84.9	94.1	89.5

Livestock Actually Grazed Under Permit On National ForestsARIZONA

C. Y.	Cattle	Horses	Sheep	Goats	Swine	Exempt Livestock		
1927	207,517	2,631	337,786	1,796	268	21,097		
1928	186,277	2,231	286,231	1,766	460	19,495		
1929	181,125	1,951	351,221	1,397	455	18,631		
1930	172,024	1,533	352,368	426	272	11,073		
1931	178,900	1,427	331,329	3,345	196	10,778		
1932	181,383	1,391	262,652	1,786	157	10,460		
1933	185,711	1,312	361,013	0	115	10,824		
1934	188,281	1,018	245,189	10	80	10,629		
1935	181,363	912	252,117	0	55	10,398		
1936	180,046	1,074	270,029	600	50	11,273		
1937	182,421	1,014	242,182	600	42	11,261		
1938	183,396	1,042	223,993	600	45	11,287		
1939	171,778	1,198	199,086	800	45	10,087		
1940	149,896	1,397	155,068	800	45	9,335		
	C&H		S&G			C&H	S&G	Swine
*1941	158,377		142,444		30	8,827	10	10
*1942	157,500		143,948		45	8,504	10	9
*1943	158,640		135,560		45	8,550	-	-
*1944	153,217		113,504		35	8,230	6	9
*1945	147,726		104,408		25	7,609	76	-
*1946	143,995		103,506		18	6,223	-	-

*C&H and S&G figures combined in annual grazing report.

Livestock Actually Grazed Under Permit on National ForestsNEW MEXICO

C. Y.	Cattle	Horses	Sheep	Goats	Swine	Exempt Livestock
1927	89,909	3,350	220,916	11,696	145	11,190
1928	81,065	3,446	227,651	10,491	168	12,167
1929	81,044	3,381	244,509	10,427	134	11,024
1930	82,049	2,964	225,577	10,526	84	11,044
1931	86,197	2,651	217,044	9,592	102	10,374
1932	88,669	2,148	211,156	10,850	104	11,581
1933	91,747	1,704	191,617	10,225	60	11,488
1934	92,923	1,548	200,156	8,082	19	11,467
1935	89,174	1,755	179,410	8,639	15	7,641
1936	86,636	1,894	189,446	6,988	0	10,425
1937	86,776	1,841	164,709	6,638	0	10,473
1938	84,136	1,869	167,524	6,417	0	10,016
1939	89,120	2,028	168,230	4,969	0	11,766
1940	89,105	1,720	157,601	5,163	0	12,373
	C&H		S&G			C&H S&G
*1941	86,381		168,529		0	9,344 1,474
*1942	87,519		164,952		51	8,631 1,369
*1943	87,608		150,695		209	9,338 1,168
*1944	89,941		144,060		-	8,838 1,186
*1945	83,571		137,767		-	8,798 1,605
*1946	84,794		125,395		-	8,273 1,329

*C&H and S&G figures combined in annual grazing reports.

Estimates of Wildlife on National Forests

Game Animals

		:Black:	Silver:				:Pecca-		
		: or :	Tip or:				:ry or :		
:Year:	Ante-	Brown:	Grzly.:	Deer	Elk	Mtn.:	Jave-	Squirrel:	Turkey
:	lope :	Bear :	Bear :			Sheep:	line :		
	:1936:	5040:	820:	-	: 81,090:	4605:	175:	5405:	54,310 : 10,290
	:1937:	5490:	840:	-	: 73,980:	4400:	200:	5310:	57,900 : 10,620
	:1938:	5320:	865:	1	: 70,020:	4140:	210:	6140:	43,590 : 9,990
	:1939:	5100:	860:	1	: 67,780:	4290:	220:	7100:	25,400 : 8,990
	:1940:	5400:	970:	-	: 62,500:	4340:	215:	*	* : 8,370
Arizona	:1941:	5900:	950:	-	: 61,700:	4300:	210:	7100:	238,330 : 8,760
	:1942:	5500:	1020:	-	: 64,995:	4100:	200:	8400:	* : 9,400
	:1943:	5235:	960:	-	: 61,995:	4095:	190:	8700:	* : *
	:1944:	5000:	1021:	-	: 61,107:	3837:	166:	10355:	* : 11,570
	:1945:	4691:	872:	-	: 63,762:	4190:	145:	11202:	* : 11,466
	:1946:	5192:	888:	-	: 63,921:	5854:	133:	10287:	* : 12,520
	:1936:	1040:	1350:	5	: 86,460:	855:	115:	-	40,450 : 14,400
	:1937:	1180:	1320:	4	: 76,400:	880:	55:	400:	38,400 : 12,500
	:1938:	1460:	1330:	3	: 72,200:	965:	90:	300:	38,800 : 13,120
	:1939:	1550:	1324:	2	: 69,130:	1040:	70:	400:	36,500 : 12,350
	:1940:	1700:	1430:	2	: 69,300:	1060:	55:	*	* : 11,100
New Mex.	:1941:	2100:	1400:	2	: 68,800:	1200:	60:	400:	340,500 : 10,310
	:1942:	2300:	1342:	-	: 68,100:	1300:	60:	500:	* : 11,000
	:1943:	2395:	1412:	-	: 68,250:	1497:	90:	500:	* : *
	:1944:	2506:	1493:	-	: 67,270:	1572:	93:	500:	* : 10,253
	:1945:	2628:	1550:	-	: 67,072:	1589:	104:	1005:	* : 10,645
	:1946:	2478:	1627:	-	: 65,838:	1616:	108:	1200:	* : 10,303
	:1936:	6080:	2170:	5	: 167,550:	5460:	290:	5105:	95,260 : 24,690
	:1937:	6670:	2160:	4	: 150,380:	5280:	255:	6210:	96,300 : 23,120
	:1938:	6780:	2195:	4	: 142,220:	5105:	300:	6440:	82,390 : 23,110
	:1939:	6650:	2184:	3	: 136,910:	5330:	290:	7500:	61,900 : 21,340
Total	:1940:	7100:	2400:	2	: 131,800:	5400:	270:	*	* : 19,470
Region 3	:1941:	8000:	2350:	2	: 130,500:	5500:	270:	7500:	638,830 : 19,570
	:1942:	7800:	2362:	-	: 133,095:	5400:	260:	8500:	* : 20,400
	:1943:	7630:	2372:	-	: 130,245:	5592:	280:	9200:	* : *
	:1944:	7506:	2514:	-	: 128,377:	5469:	259:	10055:	* : 21,823
	:1945:	7319:	2422:	-	: 130,834:	5779:	249:	12207:	* : 22,111
	:1946:	7670:	2515:	-	: 129,759:	7470:	241:	11487:	* : 22,823

*Data not available

Estimates of Wildlife on National ForestsFur-Bearing Animals

	:Bad-ger	:Beaver	:Fox	:Mink	:Muskrat	:Raccoon	:Ringtail	:Skunk	:Weasel
Arizona	:1936:4,075:	940:21,450:	55:	*:6,535:	5,775:	44,800:	2,360		
	:1937:4,110:	930:20,550:	70:	:6,840:	6,110:	43,200:	2,210		
	:1938:3,640:	960:20,370:	50:	:6,950:	6,730:	42,500:	2,090		
	:1939:3,000:	931:20,400:	20:	:6,200:	7,200:	41,700:	2,200		
	:1940:3,300:	957:21,300:	300:	:7,300:	8,600:	35,500:	2,200		
	:1941:3,200:	950:21,500:	300:	:7,500:	8,600:	34,600:	2,700		
	:1942:3,200:	1,117:19,860:	60:	1,500:8,300:	7,800:	35,600:	2,700		
	:1943:3,100:	1,195:20,630:	55:	2,340:7,720:	*	40,460:	1,235		
	:1944:3,085:	804:19,165:	28:	1,298:7,055:	900:	38,750:	1,487		
	:1945:2,950:	1,630:19,351:	54:	2,295:7,516:	1,000:	35,665:	1,147		
	:1946:3,076:	1,758:19,470:	24:	2,585:8,046:	955:	34,477:	1,622		
New Mex.	:1936:2,650:	1,720:6,935:	495:	*:1,545:	2,000:	28,365:	1,630		
	:1937:2,710:	1,770:6,990:	:	:1,700:	1,850:	29,480:	1,680		
	:1938:2,940:	1,810:6,810:	410:	:1,760:	2,120:	28,430:	4,240		
	:1939:3,090:	1,860:6,900:	400:	:1,700:	2,250:	27,000:	4,200		
	:1940:3,400:	2,322:6,700:	300:	:1,800:	2,500:	35,300:	3,000		
	:1941:3,400:	2,522:6,900:	500:	:1,800:	2,700:	28,100:	6,300		
	:1942:3,310:	2,770:7,200:	500:	1,830:1,800:	2,600:	27,200:	6,200		
	:1943:3,790:	2,835:7,680:	470:	2,090:1,810:	*	28,400:	6,560		
	:1944:3,810:	3,505:7,715:	470:	2,630:1,818:	410:	27,270:	7,710		
	:1945:3,927:	3,227:8,200:	475:	1,630:1,733:	312:	29,753:	8,030		
	:1946:3,990:	3,445:7,956:	494:	1,810:1,830:	187:	29,280:	8,020		
Total	:1936:6,725:	2,660:28,385:	550:	:8,080:	7,775:	73,165:	3,990		
Region 3	:1937:6,820:	2,700:27,540:	600:	:8,540:	7,860:	72,680:	3,890		
	:1938:6,580:	2,770:27,180:	460:	:8,710:	8,350:	70,930:	6,330		
	:1939:6,090:	2,791:27,300:	430:	:7,900:	9,450:	68,700:	6,400		
	:1940:6,700:	3,279:28,000:	600:	:9,100:	11,100:	70,800:	5,200		
	:1941:6,600:	3,472:28,500:	800:	:9,300:	11,300:	62,700:	9,000		
	:1942:6,510:	3,887:27,060:	560:	3,330:10,100:	10,400:	62,800:	8,900		
	:1943:6,890:	4,030:28,310:	525:	4,430:9,530:	*	68,860:	7,795		
	:1944:6,895:	4,309:26,880:	498:	3,928:8,873:	1,310:	66,020:	9,197		
	:1945:6,877:	4,857:27,551:	529:	3,925:9,249:	1,312:	65,418:	9,177		
	:1946:7,066:	5,203:27,426:	518:	4,395:9,876:	1,142:	63,757:	9,642		

*Data not available.

Estimates of Wildlife on National Forests

Predatory Animals

	:Year:	Bobcat or Lynx:	Coyotes :	Mt. Lions :	Wolf
<u>Arizona</u>	:1938:	11,560	: 21,530	: 500	: 25
	:1939:	10,090	: 17,875	: 460	: 22
	:1940:	10,000	: 21,900	: 480	: 13
	:1941:	11,580	: 23,500	: 490	: 15
	:1942:	10,870	: 28,500	: 455	: 21
	:1943:	10,940	: 28,090	: 475	: 8
	:1944:	11,060	: 27,350	: 463	: 16
	:1945:	11,083	: 25,950	: 429	: 9
<u>New Mexico</u>	:1946:	11,020	: 27,106	: 439	: 12
	:1938:	6,690	: 12,040	: 375	: 30
	:1939:	7,980	: 14,050	: 442	: 22
	:1940:	6,700	: 11,500	: 383	: 18
	:1941:	6,590	: 12,180	: 342	: 24
	:1942:	10,440	: 13,100	: 307	: 11
	:1943:	7,650	: 13,930	: 311	: 5
	:1944:	8,195	: 15,135	: 327	: 7
	:1945:	8,393	: 15,740	: 296	: 14
	:1946:	8,535	: 16,622	: 347	: 9

Game Animals Killed by Man

	:Year:	Antelope:	Bear:	Deer :	Elk:	Peccary:	Squirrel:	Wild Turkey
<u>Arizona</u>	:1938:	-	: 44:	3,045:	81:	* :	215 :	600
	:1939:	6	: 74:	2,750:	82:	* :	260 :	512
	:1940:	3	: 97:	2,943:	91:	* :	200 :	510
	:1941:	294	: 71:	3,240:	152:	* :	170 :	715
	:1942:	165	: 56:	3,340:	279:	120 :	* :	510
	:1943:	336	: 71:	3,507:	445:	130 :	* :	*
	:1944:	1	: 81:	3,887:	-:	207 :	* :	431
	:1945:	-	: 114:	3,294:	-:	258 :	* :	6
<u>New Mexico</u>	:1946:	-	: 173:	3,991:	135:	291 :	* :	213
	:1938:	70	: 96:	2,545:	10:	* :	2,720 :	945
	:1939:	46	: 96:	3,042:	19:	* :	2,200 :	646
	:1940:	55	: 100:	4,050:	25:	* :	2,600 :	560
	:1941:	122	: 97:	4,403:	31:	* :	2,350 :	629
	:1942:	123	: 54:	3,428:	51:	10 :	* :	370
	:1943:	135	: 50:	5,157:	135:	10 :	* :	*
	:1944:	140	: 119:	3,856:	51:	10 :	* :	623
	:1945:	163	: 129:	3,564:	37:	10 :	* :	624
	:1946:	-	: 191:	4,550:	49:	- :	* :	631
<u>Total</u> <u>Region 3</u>	:1938:	70	: 145:	5,510:	91:	* :	2,935 :	1,545
	:1939:	52	: 170:	5,792:	101:	* :	2,460 :	1,158
	:1940:	58	: 197:	6,993:	116:	* :	2,800 :	1,070
	:1941:	416	: 168:	7,643:	183:	* :	2,520 :	1,344
	:1942:	288	: 110:	6,768:	330:	130 :	* :	880
	:1943:	471	: 121:	8,664:	580:	140 :	* :	*
	:1944:	141	: 200:	7,743:	51:	217 :	* :	1,054
	:1945:	163	: 243:	6,858:	37:	268 :	* :	630
	:1946:	-	: 364:	8,541:	184:	291 :	* :	844

*Data not available

GOVERNMENT OWNED WILDLIFE AND RANGE USE IMPROVEMENTS - June 30, 1946

ARIZONA

Forest	Range Use Improvements					Wildlife Use Improvements				
	: Stock	: Water	:	:	:	: Game	: Fish	: Stream	:	:
	: Fence &	: Drive-	: Develop-	: Artificial:	:	: Refuge	: Rearing:	: & Lake	:	:
	: Corrals	: ways	: ment	: Reseeding	: Cost	: Fences	: Ponds	: Improv.	: Cost	:
	: Miles	: Miles	: Number	: Acres	:	: Miles	: Number	: Number	:	:
Apache	: 546.4:	45.0	: 82	:	: \$ 189,412.35:	3.5	: 5	: 16	: \$ 59,991.26	:
Coconino	: 1,095.0:	:	339	:	: 473,966.78:	:	:	7	: 40,095.54	:
Coronado	: 1,292.8:	:	596	:	: 617,126.02:	:	:	1	: 15,328.27	:
Crook	: 1,067.6:	:	351	2,300	: 502,398.11:	:	:	8	: 18,040.63	:
Kaibab	: 535.4:	5.5	: 183	:	: 320,662.12:	:	:	1	: 3,670.28	:
Prescott	: 986.9:	7.5	: 300	:	: 517,410.16:	4.3	:	:	: 3,843.54	:
Sitgreaves	: 402.5:	:	71	:	: 154,182.33:	:	10	: 1	: 4,717.31	:
Tonto	: 913.1:	120.8	: 394	10	: 341,671.74:	:	:	5	: 17,504.26	:
Total Forests	: 6,839.7:	178.8	: 2,316	2,310	: 3,116,829.61:	7.8	: 15	: 39	: 163,191.09	:
Swn. Forest & Range	:	:	:	:	:	:	:	:	:	:
Exp. Sta.	: 121.0:	:	54	:	: 84,073.92:	:	:	:	:	:
GRAND TOTAL ARIZONA	: 6,960.7:	178.8	: 2,370	2,310	: 3,200,903.53:	7.8	: 15	: 39	: 163,191.09	:

NEW MEXICO

Apache	: 576.1:	:	116	:	: 210,132.75:	:	:	:	:	:
Carson	: 446.4:	:	97	:	: 192,293.54:	:	:	12	: 25,192.84	:
Cibola	: 1,536.3:	:	249	:	: 564,826.19:	:	:	3	: 11,627.52	:
Coronado	: 70.5:	:	41	:	: 27,899.08:	:	:	:	:	:
Gila	: 1,383.2:	:	203	261	: 601,326.50:	2.5	:	12	: 14,207.64	:
Lincoln	: 842.1:	:	193	45	: 511,180.58:	:	:	:	: 7,591.16	:
Santa Fe	: 588.4:	44.0	: 25	:	: 191,976.53:	:	:	31	: 24,071.43	:
Total Forests	: 5,443.0:	44.0	: 924	306	: 2,299,635.17:	2.5	:	58	: 82,690.59	:
Swn. Forest & Range	:	:	:	:	:	:	:	:	:	:
Exp. Sta.	: 132.0:	:	7	:	: 57,794.40:	:	:	:	:	:
GRAND TOTAL, N. MEX.	: 5,575.0:	44.0	: 931	306	: 2,357,429.57:	2.5	:	58	: 82,690.59	:
TOTAL FORESTS	: 12,282.7:	222.8	: 3,240	2,616	: 5,416,464.78:	10.3	: 15	: 97	: 245,881.68	:
TOTAL SOUTHWESTERN	: 253.0:	:	61	:	: 141,868.32:	:	:	:	:	:
GRAND TOTAL-REGION 3	: 12,535.7:	222.8	: 3,301	2,616	: 5,558,333.10:	10.3	: 15	: 97	: 245,881.68	:

LAND DISTRIBUTION STATISTICS

<u>Distribution of Lands in Arizona</u>	<u>Area Acres</u>	<u>% To Total Area of State</u>
<u>Federal</u>		
Indian Reservations	19,224,717	26.39
Grazing Districts and Public Domain	9,011,697	12.37
National Parks and National Monuments	2,394,568	3.29
Soil Conservation Service	10,454	.01
Santa Rita Experimental Range	52,604	.07
Southwestern Forest & Range Experiment Station	245	-
National Forests (net)*	11,426,274	15.69
Other Federal Lands	5,823,950	8.00
Total Federally Owned or Managed	47,944,509	65.82
<u>State</u>		
Total State Owned	8,356,497	11.47
<u>Private</u>		
Private in farms and ranches	13,964,572	19.17
Private - other	2,577,927	3.54
Total Privately Owned	16,542,499	
Total Area of State	72,843,505	100.00
<u>Distribution of Lands in New Mexico</u>		
<u>Federal</u>		
Indian Reservations	7,153,109	9.11
Grazing Districts and Public Domain	14,612,786	18.62
National Parks and National Monuments	163,434	.21
Jornada Experimental Range	189,940	.24
National Forests (net)*	8,663,090	11.04
Soil Conservation Service	566,177	.72
Other Federal Lands	1,371,725	1.75
Total Federally Owned or Managed	32,720,261	41.69
<u>State</u>		
Total State Owned	12,700,968	16.18
<u>Private</u>		
Private in Farms and Ranches	29,592,372	37.70
Private - other	3,477,832	4.43
Total Privately Owned	33,070,254	
Total Area of State	78,491,483	100.00
Total Area of Region 3	151,334,988	

*Latest available figures

The net forest area in Arizona and New Mexico totals:	20,089,364
The gross forest area in Arizona	12,105,614
The gross forest area in New Mexico	9,900,397
TOTAL	22,006,011

Special Uses - Fiscal Year - 1941In Force 6/30/41*

	<u>Free</u>	<u>Charge</u>	<u>Total</u>
Arizona	3,763	1,435	5,198
New Mexico	1,668	770	2,438
Region 3	5,431	2,205	7,636

Land ExchangeTotal Number consummated Cases to June 30, 1946, Inc.

<u>Offered Lands - Total Consummated</u>	<u>Area Accepted</u>	<u>Estimated Value</u>
Arizona	76	239,738
New Mexico	73	290,278
Total	149	530,016
		\$ 547,719
		817,560
		\$ 1,365,279

Selected Lands - Total Consummated

<u>State</u>	<u>Area</u>	<u>Land Value</u>	<u>M. Ft. B.M.</u>	<u>Timber Value</u>
Arizona	28,894	\$ 74,422	160,443	\$ 388,703
New Mexico	31,239	52,019	272,156	613,759
Region Total	60,133	\$ 126,441	432,599	\$1,002,462

NATIONAL FOREST AREASFiscal Year 1946

<u>Arizona</u>	<u>Net Area</u>	<u>New Mexico</u>	<u>Net Area</u>
Apache	679,432	Apache	889,698
Coconino	1,750,385	Carson	1,115,992
Coronado	1,316,163	Cibola	1,704,200
Crook	1,422,629	Coronado	124,988
Kaibab	1,778,967	Gila	2,395,583
Prescott	1,265,403	Lincoln	1,178,910
Sitgreaves	802,766	Santa Fe	1,253,719
Tonto	2,410,529		
Total Arizona	11,426,274	Total N.M.	8,663,090

Net area of the 158 National Forests in the U.S. 179,726,390 Acres (F.Y.1946)

*No report submitted for 1946

EXPERIMENTAL FORESTS

Arizona						
Forest	Name of Area	Acreage	Logging	Grazing	Final	
		National	Other		Appro-	
		Forest			val	
Coconino	Fort Valley	4,770	Limited	None		1-28-36
Kaibab						
Coconino	Long Valley	2,536	15 Limited	Capacity		3-31-36
Crook	Mt. Graham	3,040	Limited	Continued		3-23-32
				*		
Tonto	Sierra Ancha	13,255	None	Continued		4-6-38

New Mexico						
Lincoln	Cloudcroft	2,120	Limited	None		11-30-35

NATURAL AREAS

Arizona						
Coconino	Oak Creek Canyon	940	None	None		10-15-31
Coconino	San Francisco Peaks	880	None	Conserva-		10-15-31
Coronado	Butterfly Peak	1,000	None	"		7-25-35
Coronado	Chimineia Canyon	160	None	"		2-26-31
Coronado	Pole Bridge Canyon	320	None	Continued		2-26-31
Coronado	Santa Catalina	4,464	None	None		3-23-27

New Mexico						
Santa Fe	Monument Canyon	640	None	None		10-1-32

RESEARCH AREA

New Mexico						
Santa Fe	Univ. of New Mex.	10,000	Regular			5-29-30

*Parker Creek Area Closed

STATEMENT OF AREAS UNDER FOREST SERVICE ADMINISTRATION BY COUNTIESAs of June 30, 1946

<u>State and</u> <u>County</u>	<u>National Forest or</u> <u>Experimental Area</u>	<u>Total Area of</u> <u>County Involving</u> <u>U.F. Lands</u> <u>(1940 Census)</u>	<u>Area of</u> <u>County</u> <u>Within U.F.</u> <u>Boundary</u>	<u>Areas not</u> <u>Under F.S.</u> <u>Adminis-</u> <u>tration</u>	<u>Acreage</u> <u>Under F.S.</u> <u>Adminis-</u> <u>tration</u>	<u>Percent of</u> <u>County Area</u> <u>under F.S.</u> <u>Adminstrn.</u>
<u>ARIZONA</u>						
Apache	Apache-Sitgreaves	7,151,360	515,994	29,163	486,831	6.81
Cochise	Coronado-Crook	4,003,800	529,015	24,567	504,448	12.60
Coconino	Coconino-Kaibab-Prescott Sitgreaves	11,836,720	3,584,182	194,915	3,389,267	28.51
Gila	Crook-Tonto	3,040,000	1,724,874	48,761	1,676,113	55.13
Graham	Crook	2,950,400	399,338	2,063	397,275	13.47
Greenlee	Apache-Crook	1,199,360	758,793	9,864	748,929	62.44
Maricopa	Crook-Tonto	5,907,840	696,073	4,310	691,763	11.71
Mohave	Kaibab	8,486,400	28,219	160	28,059	.33
Navajo	Sitgreaves	6,343,040	544,728	73,497	471,231	7.43
Pima	Coronado-Santa Rita Exp For.- S.W. Exp. For.	5,914,240	448,873	11,349	437,524	7.39
Pinal	Coronado-Crook-Tonto	3,441,920	228,805	6,112	222,693	6.47
Santa Cruz	Coronado	797,440	448,497	23,172	425,325	53.34
Yavapai	Coconino-Kaibab-Prescott-Tonto	5,178,240	2,251,627	251,962	1,999,665	38.62
STATE TOTAL		66,300,800	12,159,018	679,895	11,479,123	

STATEMENT OF AREAS UNDER FOREST SERVICE ADMINISTRATION BY COUNTIES

As of June 30, 1946

State and County	National Forest or Experimental Area	Total Area of County Involving N.F. Lands (1940 Census)	Area of County Within N.F. Boundary	Area not Under F.S. Adminis- tration	Acreage Under F.S. Adminis- tration	Percent of County Area under F.S. Adminstrn.
<u>NEW MEXICO</u>						
Bernalillo	Cibola	744,320	89,925	8,825	81,100	10.89
Catron	Apache-Cibola-Gila	4,414,720	2,407,930	173,176	2,234,754	50.62
Chavez	Lincoln	3,900,160	41,497	1,359	40,138	1.03
Colfax	Carson	2,409,600	7,680	1,387	6,293	.26
Dona Ana	Jornada Exp. Range	2,434,560	193,482	3,542	189,940	7.80
Eddy	Lincoln	2,664,320	139,172	4,433	134,739	5.06
Grant	Gila-Ft. Bayard Res.	2,540,800	916,012	20,656	895,689	35.15
Hidalgo	Coronado-Gila	2,206,080	136,031	3,390	132,641	6.01
Lincoln	Lincoln	3,109,760	507,575	66,850	440,725	14.17
McKinley	Cibola	3,491,840	262,129	106,655	155,474	4.45
Mora	Carson-Santa Fe	1,242,880	121,891	30,206	91,685	7.38
Otero	Lincoln	4,248,320	660,009	189,165	470,844	11.08
Rio Arriba	Carson-Santa Fe	3,747,200	1,266,235	64,065	1,202,170	32.08
	Taos L. U. Project					
Sandoval	Cibola-Santa Fe-Ramon Vigil Proj.	2,439,040	365,995	25,477	340,518	13.96
	Ojo de San Jose Proj.					
San Miguel	Santa Fe	3,039,360	341,545	45,821	295,724	9.73
Santa Fe	Santa Fe-Ramon Vigil Proj.- Gabaldon Proj.	1,243,520	217,839	21,317	196,522	15.80
Sierra	Cibola-Gila	1,941,760	391,557	11,255	380,302	19.58
Socorro	Cibola-Lincoln	4,974,080	1,032,854	130,339	902,515	18.14
Taos	Carson-Santa Fe-Taos Proj.	1,443,840	468,938	77,914	391,024	27.08
Torrance	Cibola-Lincoln	2,137,600	297,988	35,985	262,003	12.26
Valencia	Cibola	3,607,680	390,979	264,947	126,032	3.49
STATE TOTAL		57,981,440	10,257,263	1,219,914	8,970,832	

IMPROVED PUBLIC RECREATION AREAS ON NATIONAL FORESTSARIZONAAPACHEPicnic Grounds (3)

Elderberry
Junction Spur
Luna Reservoir

Forest Camps (19)

Benny Creek
Greer
East Fork
Sheep Crossing
Big Lake
West Fork
Colonel
Warren
P. S.
Diamond Rock
Aspen
Hall
Beaver Dam
Buffalo Crossing
Hannagan
K. P. Cienega
Grant Creek
Middle Blue
Upper Blue

Camp and Picnic Grounds (4)

Blue Crossing
South Fork
Alpine
Luna Reservoir

Vistas (1)
BlueCOCOONINOPicnic Grounds (5)

Fulton Spring
Schnebly Hill
Lava Cave
Oak Creek
Bakers Butte

COCOONINO (Continued)Forest Camps (14)

Townsend
Kit Carson
Dairy Springs
Double Springs
"R. H."
Kehl Spring
Pine Flat
Sliderock
Banjo Bill
Manzanita
Clint's Well
Lee Johnson
General Spring
Lake Mary

Vistas (4)

Oak Creek
Schnebly Hill
Bakers Butte
Mogollon Rim

Winter Sports Areas (1)

Arizona Snow Bowl

CORONADOPicnic Grounds (5)

Sabino Canyon
Bog Springs
Roundup
John Hands
South Fork

Forest Camps (21)

Bear Wallow
Soldier Camp
Middle Sabino
Marshall Gulch
Madera Canyon
Big Rock
Calabasas
Pena Blanca
Rucker

ARIZONA (Cont'd)CORONADO (Continued)Forest Camps (Continued)

Bathtub
Cypress
Hermitage
Morse
Sycamore
Turkey Creek
Pinery
Rustler Park
Herb Martyr
Stewart
Idlewild
Sunny Flat

Camp and Picnic Grounds (1)

Lower Sabino

Winter Sports Areas (1)

Bear Wallow

CROOKPicnic Grounds (8)

Marijilda
Moon Creek
Wet Canyon
Turkey Flat
Pioneer Pass
Kellner Canyon
Pinal Mountain
Warnica Springs

Forest Camps (12)

Stray Horse
Engineer Spring
Upper Juan Miller
Lower Juan Miller
Honeymoon
Granville
Stockton Pass
Arcadia
Shannon
Hospital Flat
Soldier Creek
Jones Water

Camp and Picnic Grounds (2)

Oak Flat
Treasure Park

KAIBABPicnic Grounds (4)

Garland Prairie
White Horse
Sycamore
Kanab

Forest Camps (6)

Parks
Spitz Spring
Old Bill Williams
J. D. Dam
Jacob Lake
V. T.

Vistas (4)Winter Sports Area (1)

Garland Prairie Williams Mt.
Sycamore
House Rock
Kanab

PRESCOTTPicnic Grounds (4)

Thumb Butte
The Playgrounds
Potato Patch
Turney Gulch

Forest Camps (8)

Granite Creek
Indian Creek
Wolf Creek
Upper Wolf Creek
Mingus Mountain
Powell Springs
Hazelett Hollow
Kentuck Spring

Camp and Picnic Ground (1)

Granite Basin

Vistas (2)Winter Sports Areas (2)

Granite Basin Mingus Mountain
Caldwell Canyon Saint Agatha

ARIZONA (Cont'd.)SITGREAVESForest Camps (3)

Chevalon
Lakeside
Pinetop

Vistas (1)

Promontory Tower

Winter Sports Areas (1)

Springer Mountain

TONTOPicnic Grounds (6)

Cave Creek
Seven Springs
Camp Creek
Coon Bluff
Blue Point
Canyon Lake

TONTO (Continued)Forest Camps (8)

Broncho Canyon
Blue Point
Apache Lake
Pine
Sycamore
Horton-Tonto Creek
Reynolds Creek
Rose Creek

TOTAL DEVELOPED AREASARIZONA

Picnic Grounds	35
Forest Camps	91
Camp and Picnic Grounds.....	8
Winter Sports Areas	6
Vistas.....	12
	<u>152</u>

NEW MEXICOAPACHEForest Camps (2)

Pueblo Park
Cottonwood Canyon

Vistas (1)

Chimney Rock

CORONADOForest Camps (1)

Clanton Canyon

CARSONPicnic Grounds (3)

The Cave
Kiowa Springs
Divisadero Peak

CARSON (Continued)Forest Camps (21)

El Nogal	La Jara
Las Petaca	Canjilon
Capulin	
La Sombra	
Comales	
Agua Piedra	
Echo Cave	<u>Camp and Picnic Grounds (2)</u>
La Junta	

Angostura	La Viniteria
Santa Barbara	El Rito

Hondo Canyon
Cabresto Lake
Eagle Rock

Winter Sports Areas (2)

Columbine	
Goat Hill	Agua Piedra
La Bobita	Red River
Elephant Rock	
June Bug	
Lagunitas	

NEW MEXICO (Cont'd.)CIBOLAPicnic Grounds (24)

Juan Tabo
La Cueva
Cole Spring
Cienega Canyon
Sulphur Canyon
Doc Long
Tree Spring
Dry Camp
Balsam Glade
Capulin
Sandia Crest
Kiwanis Point
Las Huertas Creek
Pine Flat
Cedro Peak
New Canyon
Mountainair Ranger Station
Luna Park
Water Canyon
McGaffey
Whitewater
Red Cloud
Springtime
Tajique

Forest Camps (6)

Fourth of July Spring
Capillo Peak
Bear Trap
Hughes Mill
Quaking Aspen
Turkey Spring

Camp and Picnic Grounds (2)

Canyon Colorado
Canyon Lobo

Winter Sports Areas (2)

Sandia Mountain
McGaffey

Vistas (3)

Sandia Crest
Kiwanis Point
Capillo Peak

GILAPicnic Grounds (7)

Little Walnut
Cherry Creek
McMillen
Pine Flat
Bursum
Emory Pass
Negrito Tower

Forest Camps (12)

Goforth
Iron Creek
Wrights Cabin
Rocky Canyon
Black Canyon
Lower Black Canyon
Gilita
Willow Creek
Ben Lilly
Whitewater
Little Dry
Big Dry

Vistas (1)

Emory Pass

LINCOLNPicnic Grounds (2)

Sitting Bull Falls
Cedar Creek

Forest Camps (4)

James Canyon
Karr Canyon
Cherokee Bill
School House

Winter Sports Areas (1)

Cedar Creek

Vistas (2)

Monjeau Lookout
Ruidoso Lookout

NEW MEXICO (Cont'd.)SANTA FEPicnic Grounds (5)

Spence Spring
 Little Tesuque
 Dalton
 E. V. Long
 Brides

Forest Camps (19)

Battleship Rock
 Jemez River
 La Cueva
 Calaveras
 Rio Las Vacas
 East Fork
 Jemez Falls
 Las Conchas
 Black Canyon
 Fields Tract
 Holy Ghost
 Winsor Creek
 Panchuela
 Oak Flat
 Fishing Hole
 The Pine
 Three Falls
 Puerco
 Mud Springs

Camp and Picnic Grounds (2)

Banco Bonito
 Paliza

Winter Sports Areas (1)

Big Tesuque

JORNADA RANGE RESERVEPicnic Grounds (1)

Rope Springs

TOTAL DEVELOPED AREASNEW MEXICO

Picnic Grounds.....	42
Forest Camps.....	65
Camp and Picnic Grounds.....	6
Winter Sports Areas.....	6
Vistas.....	7
	<u>126</u>

TOTAL DEVELOPED AREASREGION 3

Picnic Grounds.....	77
Forest Camps.....	156
Camp and Picnic Grounds ...	14
Winter Sports Areas.....	12
Vistas.....	19
	<u>278</u>

RECREATION VISITORS - 1946

(Estimates cover government owned lands only)

Recreation Areas	Arizona	New Mexico	Region 3
Campgrounds	75,470	41,319	116,789
Picnic Areas	140,575	126,520	267,095
Winter Sports Areas	12,292	17,590	29,882
Organization Camps	10,320	10,880	21,200
Hotels and Resorts	88,801	2,475	91,276
Recreation Residences	5,257	2,685	7,942
Wilderness Areas	2,353	5,920	8,273
Other Forest Areas	141,523	128,616	270,139
Highways and Roads	794,250	134,405	928,655
Totals	1,270,841	470,410	1,741,251

WILDERNESS AREAS

Arizona					
Forest	Name of Area	Acreage	Logging	Grazing	Final
		National:			Approval
		Forest	Other:		
Apache	Blue Range	216,737	1,427	Deferred	To Capacity: 8-20-36
(Crook)					
Tonto	Mazatzal	205,000	346	Limited	Conservative: 6-13-40
Tonto	Superstition	118,754	66	Limited	Conservative: 4-17-40
(Crook)	"	13,000			

New Mexico					
Gila	Black Range	168,424	1,560	Discouraged	Conservative: 8-20-36
Gila	Gila	562,609	4,445	Inaccessible	Continued: 4-4-38*
Santa Fe	Pecos Division	136,640	1,360	Discouraged	To continue: 8-22-36

*Amended 11/25/44

WILD AREAS

Arizona					
Apache	Mt. Baldy	7,400		Inaccessible	Continued: 8-20-36
Coconino	Sycamore Canyon	21,277	1,108	None	Continued: 8-20-36
Kaibab	" "	5,870			
Prescott	" "	18,915			
Coronado	Chiricahua	18,000		Discouraged	Conservative: 9-18-40
Crook	Galiuro	55,000		Discouraged	Reserve Range: 6-19-40
Prescott	Pine Mountain	9,842	76	None	To Decrease: 8-22-36
(Tonto)	" "	7,582			
Tonto	Sierra Ancha	29,834	66	Discouraged	Conservative: 2-28-33**

**Amended 4/6/38

New Mexico					
Lincoln	White Mountain	22,800	1,200	Discouraged	Conservative: 8-20-36
Santa Fe	San Pedro Parks	41,132		Not contemplated	Continued: 9-16-40

PAYMENTS TO STATES FROM NATIONAL FOREST RECEIPTS - JUNE 30, 1946ARIZONA

(See explanation at foot of Page 40)

<u>Forest</u>	<u>County</u>	<u>Net Forest Area-Acres</u>	<u>Act June 20, 1910 (School Sections)</u>	<u>Act May 23, 1908 (25% Fund)</u>
Apache	Apache	442,621	\$	\$ 9,368.19
	Greenlee	236,811		5,011.23
	Total	679,432	3,569.05	14,379.42
Coconino	Coconino	1,324,015		32,614.11
	Yavapai	426,370		10,503.44
	Total	1,750,385	10,702.02	43,117.55
Coronado	Cochise	482,052		3,979.38
	Pima	384,675		3,175.47
	Pinal	24,111		198.81
	Santa Cruz	425,325		3,510.06
	Total	1,316,163	2,696.44	10,863.72
Crook	Cochise	22,396		186.89
	Gila	340,420		2,848.56
	Graham	397,275		3,324.71
	Greenlee	512,118		4,285.35
	Maricopa	10,866		90.47
	Pinal	139,554		1,167.76
	Total	1,422,629	2,954.57	11,903.74
Kaibab	Coconino	1,734,675		11,103.63
	Mohave	28,059		179.92
	Yavapai	16,233		103.62
	Total	1,778,967	2,826.36	11,387.17
Prescott	Coconino	43,252		285.06
	Yavapai	1,222,151		8,050.02
	Total	1,265,403	2,068.82	8,335.08
Sitgreaves	Apache	44,210		2,104.87
	Coconino	287,325		13,672.11
	Navajo	471,231		22,423.94
	Total	802,766	9,481.68	38,200.92
Tonto	Gila	1,335,693		10,505.11
	Maricopa	680,897		5,355.88
	Pinal	59,028		464.49
	Yavapai	334,911		2,633.39
	Total	2,410,529	4,705.70	18,958.87
Total for Arizona		11,426,274	\$ 39,004.64	\$157,146.47

DISTRIBUTION BY COUNTIES OF THE 25% FUND (LAST COLUMN)

Apache	\$ 11,473.06	Greenlee	\$ 9,296.58	Pinal	\$ 1,831.06
Cochise	4,166.27	Maricopa	5,446.35	Santa Cruz	3,510.06
Coconino	57,674.91	Mohave	179.92	Yavapai	21,290.47
Gila	13,353.67	Navajo	22,423.94		
Graham	3,324.71	Pima	3,175.47	Total	\$157,146.47

PAYMENTS TO STATES FROM NATIONAL FOREST RECEIPTS - JUNE 30, 1946NEW MEXICO

(See explanation at foot of Page 40)

<u>Forest</u>	<u>County</u>	<u>Net Forest Area-Acres</u>	<u>Act June 20, 1910 (School Sections)</u>	<u>Act May 23, 1908 (25% Fund)</u>
Apache	Catron	889,698	\$ 86.71	\$ 19,976.19
Carson	Colfax	6,293		42.87
	Mora	2,496		16.84
	Rio Arriba	784,677		5,387.66
	Taos	321,566		2,207.73
	Total	1,115,032	33.23	7,655.10
Cibola	Bernalillo	81,100		500.13
	Catron	203,511		1,254.53
	McKinley	155,474		958.24
	Sandoval	45,263		279.49
	Sierra	20,766		128.19
	Socorro	900,649		5,551.89
	Torrance	171,405		1,057.00
	Valencia	126,032		777.52
	Total	1,704,200	45.61	10,506.99
Coronado	Hidalgo	124,988	4.75	1,094.49
Gila	Catron	1,141,545		6,547.26
	Grant	384,854		5,075.54
	Hidalgo	7,653		43.93
	Sierra	359,536		2,062.07
	Total	2,393,588	59.59	13,728.80
Lincoln	Chavez	40,138		326.56
	Eddy	134,739		1,097.83
	Lincoln	440,725		3,591.24
	Otero	470,844		3,836.17
	Socorro	1,866		15.37
	Torrance	90,598		737.65
	Total	1,178,910	41.69	9,604.82
Santa Fe	Mora	89,189		955.69
	Rio Arriba	412,392		4,420.90
	Sandoval	274,878		2,947.72
	San Miguel	295,724		3,170.85
	Santa Fe	179,615		1,926.16
	Taos	1,921		20.16
	Total	1,253,719	58.35	13,441.48
Total for New Mexico		8,660,135	\$ 329.93	\$ 76,007.87

DISTRIBUTION BY COUNTIES OF THE 25% FUND (LAST COLUMN)

Bernalillo	\$ 500.13	Lincoln	\$ 3,591.24	Santa Fe	\$ 1,926.16
Catron	27,777.98	McKinley	958.24	Sierra	2,190.26
Chavez	326.56	Mora	972.53	Socorro	5,567.26
Colfax	42.87	Otero	3,836.17	Taos	2,227.89
Eddy	1,097.83	Rio Arriba	9,808.56	Torrance	1,794.65
Grant	5,075.54	Sandoval	3,227.21	Valencia	777.52
Hidalgo	1,138.42	San Miguel	3,170.85		
Total					\$76,007.87

NET RECEIPTS FOR THE FISCAL YEAR 1946

: <u>TIMBER</u> :							
State:	Timber	Forest	Tres-	Grazing	Land Use	Power	Total
:	Sales	Products	pass	:	:	:	:
Ariz.:	\$396,904.05	\$2583.90	\$729.14	\$239,939.40	\$18,317.53	\$9,111.50	\$667,590.52
N.M.:	163,462.76	1865.40	219.25	130,019.52	8,654.95	139.54	304,361.42
R-3	\$560,366.81	\$4454.30	\$948.39	\$369,958.92	\$26,972.48	\$9,251.04	\$971,951.94

Due School Fund (Enabling Act June 20, 1910)

Arizona.....	\$39,004.64
New Mexico	329.93

	Arizona	New Mexico
Net amounts on which 25% and 10% are computed	\$628,535.88	\$304,031.49
Due States: 25%	157,146.47	76,007.87*
Due Road and Trail Fund: 10%	<u>62,858.59</u>	<u>30,403.15*</u>
TOTALS	\$220,005.06	\$106,411.02

Value of timber delivered in exchange for land under the Act of March 20, 1922, less value previously delivered in cases rejected during the year: \$22,408.00.

* 25% of the receipts from National Forests are paid over to the counties in which the forests are located, in lieu of taxes. An additional 10% of the receipts are returned to the forests for use on roads and trails within the forests.

ROADS AND TRAILS - JUNE 30, 1946

During Fiscal Year 1946

ARIZONA

Type of Road	Construction		Maintenance		TOTAL
	Miles	Cost	Miles	Cost	
Forest Highways	2.3:	\$ 289,615:	*226:	\$ 13,400:	\$ 303,015
Forest Devlpmt. Roads	0.5:	7,113:	**6419:	228,520:	235,633
Trails	:	:	***1570:	37,127:	37,127
TOTAL	:	296,728:	:	279,047:	575,775

* 129 Mi. Cooperative

**1459 Mi. Other Agencies

***118 Mi. Other Agencies

To June 30, 1946

Forest Highways	: 682	: 10,869,026:	:	443,861:	11,312,887
Forest Devlpmt. Roads	: 3,579	: 9,097,568:	:	2,158,068:	11,255,636
Trails	: 3,221	: 581,917:	:	441,357:	1,023,274
TOTAL	:	20,548,511:	:	3,043,286:	23,591,797

During Fiscal Year 1946

NEW MEXICO

Forest Highways	: 0	: 17,206:	:	:	17,206
Forest Devlpmt. Roads	: 1.3:	10,204:	**4870:	278,324:	288,528
Trails	: 1.7:	5,462:	***4285:	18,132:	23,594
TOTAL	:	32,872:	:	296,456:	329,328

**904 Mi. Other Agencies

***260 Mi. Other Agencies

To June 30, 1946

Forest Highways	: 329.6:	6,748,227:	:	508,375:	7,256,602
Forest Devlpmt. Roads	: 2,437	: 7,186,597:	:	2,405,308:	9,591,905
Trails	: 1,963	: 259,194:	:	307,013:	566,207
TOTAL	:	14,194,018:	:	3,220,696:	17,414,714

During Fiscal Year 1946

REGION

Forest Highways	: 2.3:	306,821:	*226:	13,400:	320,221
Forest Devlpmt. Roads	: 1.8:	17,317:	**11289:	506,844:	524,161
Trails	: 1.7:	5,462:	***5855:	55,259:	60,721
TOTAL	:	329,600:	:	575,503:	905,103

* 129 Mi. Cooperative

** 2363 Mi. Other Agencies

*** 378 Mi. Other Agencies

To June 30, 1946

Forest Highways	: 1,011.6:	17,617,253:	:	952,236:	18,569,489
Forest Devlpmt. Roads	: 6,016	: 16,284,165:	:	4,563,376:	20,847,541
Trails	: 5,184	: 841,111:	:	748,370:	1,589,481
TOTAL	:	34,742,529:	:	6,263,982:	41,006,511

SCHOOLS GIVING COURSES LEADING TO A DEGREE IN FORESTRY
(As compiled by the U. S. Forest Service)

Alabama Polytechnic Institute, Auburn, Alabama
University of California, Berkeley 4, Calif.
Colorado State College, Fort Collins, Colo.
University of Connecticut, Storrs, Conn.
Duke University, Durham, North Carolina
University of Florida, Gainesville, Fla.
University of Georgia, Athens, Georgia
Harvard University, Petersham, Mass.
University of Idaho, Moscow, Idaho
University of Idaho, Southern Branch, Pocatello, Idaho
Iowa State College, Ames, Iowa
Louisiana State University, Baton Rouge, La.
University of Maine, Orono, Maine
Massachusetts State College, Amherst, Mass.
Michigan State College, East Lansing, Michigan
University of Michigan, Ann Arbor, Michigan
University of Minnesota, Saint Paul, Minn.
Montana State University, Missoula, Montana
University of Nevada, Reno, Nevada (Pre-forestry only).
University of New Hampshire, Durham, N.H.
North Carolina State College, Raleigh, N.C.
Oregon State College, Corvallis, Oregon
Pennsylvania State College, State College, Penn.
Purdue University, Lafayette, Indiana
Syracuse University, Syracuse, N.Y.
Utah State College, Logan, Utah
University of Washington, Seattle, Wash.
Washington State College, Pullman, Wash.
West Virginia University, Morgantown, W. Va.
Yale University, New Haven, Conn.

- 1631 First sawmill at Berwick, Maine
- 1640 First Ordinance governing timber use (Exeter, N.H.).
- 1822 DeWitt Clinton, Governor of New York, pleaded for practice of conservation.
- 1828 Live oak and cedar reservations for Navy made in Louisiana (19,000 acres).
- 1831 Timber cutting on public lands prohibited.
- 1849 Report of Patent Office urges conservation.
- 1867 Wisconsin appointed committee to report on effect of forest destruction.
- 1870 Census Forest area canvassed.
- 1872 Governor Morton of Nebraska established Arbor Day.
- 1873 Forestry Committee of American Association for the Advancement of Science presented memorials to Congress, asking for the appointment of a commission of forestry.
- Timber culture act.
- 1876 Congress established an "agency" on forestry in the Department of Agriculture. Dr. Franklin B. Hough appointed Commissioner of Forestry.
- 1877 Congress granted its first appropriation of \$6,000 for the purpose of obtaining information preparatory to establishing a Division of Forestry.
- 1882 American Forestry Association started April 25 at Cincinnati.
- 1884 The duty of making experiments with timber was added to work of Division of Forestry.
- 1886 Division of Forestry in Department of Agriculture created.
- 1891 By Act of Congress, the President was given power to establish forest reservations.
- President Harrison established the Yellowstone Park Timber Land Reserve to be under control of the Land Office.
- 1892 Pecos River Forest Reserve established in New Mexico.
- 1893 Grand Canyon Forest Reserve established in Arizona.
- 1896 Secretary of Interior requested the National Academy of Science to investigate and recommend a National Forest policy.
- 1897 By the Act of June 4, the forest reserves were put under administration and from this Act, with subsequent amendments, the forests are now being administered. The Land Office had charge of administration. The Division of Forestry gave technical advice. The U.S. Geological Survey was charged with surveying and mapping the forests.
- 1898 The Division of Forestry employed a total of six clerks and five scientific employees.
- The first field work was done, which consisted of special investigation in connection with lumbering.
- 1901 The Division of Forestry was raised to the rank of Bureau but the change was in name only.
- 1905 By the Act of February 1, forestry work was consolidated and the forest reserves were transferred to the Department of Agriculture and the work of the Service as we know it today, started. In July 1905, the Bureau of Forestry became the Forest Service.
- 1907 The "forest reserves" were changed to National Forests in name to correct the impression that they were withdrawn from use.
- 1908 The direct administration of field work was transferred from Washington, D.C., to six district headquarters in the West; in 1914 a seventh district was established for the Appalachian region; in 1921 an eighth district was established in Alaska, and in 1929, a ninth district was set up for the Lake States.

- 1909 Between 1901 and 1909, President Roosevelt set aside over 148,000,000 acres of National Forests.
- 1911 By Act of March 1 (Weeks Law), acquisition of forest lands on headwaters of navigable streams east of Mississippi River made possible.
- 1922 General Forest Exchange Act authorizing exchange of lands in National Forests, cutting of timber in exchange for land, reservation of timber, etc., amended and extended 1923, 1926, 1928, 1929, 1935.
- 1924 The Reforestation Act (Clarke-McNary) was passed on June 7, greatly extending the scope of government cooperation in forestry.
- 1928 McNary-Woodruff Act was passed, authorizing appropriations of \$2,000,000 for 1929 and \$3,000,000 each for 1930 and 1931 for purchase of forest lands.
Forest Research Act (McNary-McSweeney) was passed, providing for a national forest research program on the part of seven governmental bureaus.
- 1930 Forest Service Districts became "Regions."
Secretary of Agriculture authorized to enlarge tree planting operations on National Forests.
Secretary of Agriculture authorized in cases of emergency to incur expense in search of persons lost in National Forests and in transporting persons seriously ill, injured or who may die within National Forests to nearest place where may be transferred to interested relatives or local authorities.
- 1935 Secretary of Agriculture authorized to cooperate with States in acquisition and administration of State Forests (Fulmer Act).
- 1936 Secretary of Agriculture authorized to maintain forest experiment stations throughout the United States.
- 1937 Secretary of Agriculture authorized to cooperate in development of farm forestry in States and Territories. (Norris-Doxey Act).
- 1938 Senate Concurrent Resolution No. 31 adopted June 13, 1938, created a Joint Congressional Committee to study the forest situation in the United States.
- 1941 Joint Congressional Committee on Forestry issued a report on "Forest Lands of the United States," citing deplorable conditions in the forest areas of many sections of U. S. and recommending "The establishment of a real forest economy in this country which, as an important segment of the broad agricultural economy, will put to constructive use one-third of our total land areas." Recommendations included various cooperative aids to private forest land owners, expansion of public ownership, and a federal-state system of regulation governing forestry practices.
- 1944 Secretary of Agriculture and Secretary of the Interior authorized by Congress to establish cooperative sustained-yield units, under cooperative agreements with private owners of forest land within the units.
Secretary of Agriculture authorized and directed by Congress to cooperate in making a national survey of forest resources.
Clarke-McNary Act (see "1924") amended, increasing funds to not exceeding \$1,000,000 annually.
- 1946 "American Forest Congress" held by American Forestry Association at Washington, D.C., to formulate program for forest conservation. Representatives of all interested elements participated, and a proposed program was adopted and published.
Forest Service completed "Forest Reappraisal" (See 1944) and published first three reports on its findings.